

5158

Form 504 Ed. June, 1928	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY R. S. Patton, Director	
U. S. COAST & GEODETIC SURVEY LIBRARY AND ARCHIVES	
MAR 31 1932	
State: Washington	Acc. No. _____
DESCRIPTIVE REPORT	
<del>Topographic</del> Hydrographic	Sheet No. 5158 Field # 29
LOCALITY	
Strait of Juan de Fuca	
Pillar Pt. to Crescent Bay	
1931...	
CHIEF OF PARTY	
K. I. Adams	

5158

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 29

REGISTER NO. 5158

State WASHINGTON

General locality STRAIT OF JUAN DE FUCA

Locality ~~Agate Bay to~~ Pillar Point to Crescent Bay

Scale: 20,000 Date of survey Sept.-Oct., 1931

Vessel Gig and Motorsailer (Ship GUIDE)

Chief of Party K. T. Adams

Surveyed by H. J. Healy and J. C. Mathisson

Protracted by E. H. Sheridan

Soundings penciled by E. H. Sheridan

Soundings in fathoms ~~2000~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by --

Inked by -- Harold W. Murray

Verified by -- H. W. M.

Instructions dated May 7, and May 21,, 1931

Remarks: \_\_\_\_\_

REG. NO. 5158

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET FIELD NO. 29

U.S.C. and G.S.S. GUIDE

K. T. Adams, Chief of Party

Season  
1931

AUTHORITY:

The authority for the hydrography executed on this sheet was contained in Director's instructions dated May 7, 1931, and May 21, 1931. ✓

LOCALITY AND LIMITS:

The work on this sheet constituted a complete survey of the inshore hydrography, from Triangulation Station Pillar Point, Longitude  $124^{\circ}-06'$  to Topographic Station <sup>Ag</sup> Longitude  $123^{\circ}-44'$ . The sheet joins Launch Field Sheet No. <sup>5156</sup> 28, as its western limit, makes a junction with Launch Sheet Registry No. 4586, as its eastern limit, and joins Ship Sheet Field No. <sup>5159</sup> 48, as its northern limit. ✓

CONTROL:

The signals used to control the hydrography executed on this sheet were: Triangulation Stations Pillar Point, 1909; Dode, 1892; and Twin Rivers, 1892; twenty topographic signals located by Lieutenant (j.g.) J. N. Jones on Topographic Sheet Field Letter D between Triangulation Station Pillar Point and

Triangulation Station Dode; four topographic signals, namely: Reefe, Low, Rock and Ag, located by Lieutenant (j.g.) Carl I. Aslaksen and Lieutenant M. O. Witherbee on Topographic Sheet Registry No. 4182, in 1926; and twenty-eight hydrographic signals between Triangulation Station Dode and the eastern limit of the sheet. ✓

The Topographic signals Reef, Low, Rock and Ag were marked stations and were recovered and built up. These signals along with Triangulation Stations Dode and Twin Rivers were used to control the sextant cuts taken to locate the twenty-eight hydrographic signals. In general, four, and sometimes more, cuts were obtained for each signal. ✓

#### SURVEY METHODS AND EQUIPMENT:

The main system of sounding lines ~~were~~ run parallel to the beach and <sup>the spacing</sup> varied from 100 meters apart close inshore to 200 meters apart at the outer limit of the sheet. The lines were run using ranges when possible, the compass used only when necessary. The lines were controlled by three point sextant fixes taken between signals ashore. As a general rule the soundings were taken with a hand lead line of No. 8, Mahogany tiller line with phosphor bronze wire center equipped with a ten pound lead and graduated to fathoms and feet up to six fathoms and fathoms and half fathoms above this. In depths greater than sixteen fathoms the hand sounding machine was used. It was necessary to stop for soundings ✓

of twelve fathoms and over in order to get the lead line, or wire, straight up and down.

All soundings indicating shoals were completely investigated until the least depth was ascertained. Heavy patches of kelp were encountered throughout the inshore area of this sheet. The heaviest patches are off Twin Rivers and Triangulation Station Dode.

The gig was used for the greater part of the hydrography on this sheet. It was equipped with a sounding chair and hand sounding machine aft. The motorsailer was also used, this was equipped with a sounding chair forward and a hand sounding machine aft. The hand lead lines were checked when they were used and the corrections noted in the sounding record. The hand sounding machines were rigged with stranded sounding wire and a sixteen pound lead. Registering Sheave No. 137 was used on the motorsailer sounding machine and Registering Sheave No. ~~137~~<sup>142</sup> was used on the gig sounding machine. These sheaves were checked before and after the hydrography was executed and they were found to be correct.

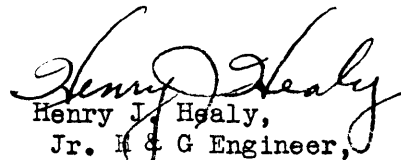
DANGERS:

Only one shoal spot was found in the area covered by this sheet. This was off Triangulation Station Dode in Latitude  $48^{\circ}-11'$ , plus 305 meters, Longitude  $124^{\circ}-00'$ , plus 1188 meters, and was found to have a least depth of two fathoms - five feet.

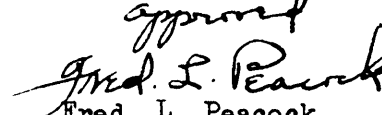
COMPARISON WITH PREVIOUS SURVEYS:

The previous survey of this area was executed in 1884, on a 1:80,000 scale. The scale is too small to make an accurate comparison with the present survey.

Respectfully submitted,

  
Henry J. Healy,  
Jr. H. & G. Engineer,  
C. & G. Survey.

Respectfully forwarded:

  
Fred. L. Peacock,  
H. & G. Engineer, C. & G. S.,  
Commanding Ship GUIDE.

# STATISTICS

Sheet Field No. 29 - 1931

DATE	DAY LETTER	BOAT USED	VOL.	STA. MIS. OF S'ND'G. LINE	SOUNDINGS H.L.	WIRE	NO. POS.
9-13-31	a	MOTOR- SAILER	1	9.5	389		61
9-14-31	b	"	1	18.0	416		90
TOTAL				27.5	805		151
9-17-31	a	GIG	1	4.1	50		25
9-26-31	b	GIG	2	11.2	376		61
9-27-31	c	GIG	2	29.8	689		126
9-28-31	d	GIG	2	5.0	139		26
9-29-31	e	GIG	3	21.3	449		100
9-30-31	f	GIG	3	28.2	609		119
10-1-31	g	GIG	3	18.5	343		76
10-2-31	h	GIG	3 & 4	20.7	237	35	84
10-8-31	j	Motor- sailer	4	00.5	8		4
10-10-31	k	GIG	4	21.6	336		100
10-11-31	l	GIG	4	2.0	43		10
10-12-31	m	GIG	4	12.5	221		78
10-14-31	n	GIG	5	10.7	140		56
TOTALS				186.1	3640		865

STATEMENT

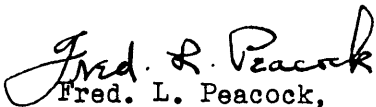
To Accompany

HYDROGRAPHIC SHEET FIELD NO. 29 - 1931

U.S.C. and G.S.S. GUIDE

At transfer of command on November 30, 1931, the  
smooth plotting of this sheet had not been started.

I have exercised general supervision over the pro-  
tracting and plotting of this sheet and have inspected the  
sheet on completion and it is hereby approved.

  
Fred. L. Peacock,  
H & G Engineer, C & G S.,  
Commanding Ship GUIDE.

Oakland, California,

March 23, 1932.



Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5158*

The following statistics will be submitted with the  
cartographer's report on the sheet:

Number of positions on sheet	<i>865</i> .....
Number of positions checked	<i>311</i> .....
Number of positions revised	<i>15</i> .....
Number of soundings recorded	<i>3685</i> .....
Number of soundings revised	<i>190</i> .....
Number of signals erroneously plotted or transferred	..... .....✓

Date: *May 27 1932* .....

Cartographer: *Harold W. Murray* .....

APR 26 1932

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
5 volumes of sounding records for

HYDROGRAPHIC SHEET 5158

Locality Pillar Point to Crescent Bay, Washington Coast

Chief of Party: K. T. Adams in 1931

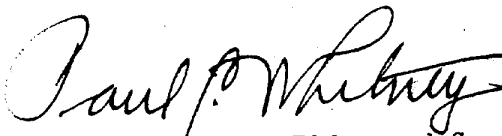
Plane of reference is mean lower low water, reading

1.9ft. on tide staff at Port Crescent

7.9ft. below B. M. 1

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

  
Chief, Division of Tides and Currents.

May 27, 1932

# Section of Field Records

Report on H-5158

Pillar Point to Crescent Bay, Washington

Instructions dated May 7 & 21, 1931 (Guide)

Surveyed in 1931

Chief of Party - K. J. Adams

Surveyed by - H. J. Healy & J. C. Mathison

Protected by - E. H. Sheridan

Soundings plotted by - E. H. S.

Verified & inked by - Harold W. Murray

1. The record conforms to the requirements of the Hydrographic Manual. ✓
2. The plan and character of development satisfy the requirements of the Hydrographic Manual. ✓
3. The plan and extent of development satisfy the Specific Instructions. ✓
4. There are few, if any, sounding line crossings on this sheet. ✓
5. The usual depth curves can be fairly well drawn within the limits of the hydrography. ✓
6. The field protracting was very good. The use of green ink for position nomenclature is not ✓

recommended unless the ink is strictly fresh. The size of the pencil figures was above the ordinary. The minus (-) sign was omitted from practically all of the minus soundings.

7. The following rocks were plotted by the verifier from information obtained in the records:

Pos. 14b	Lat. $48^{\circ} 9.44$	Long. $123^{\circ} 46.97$
" 34b	" 9.64	" 51.79

8. Topographic details including shore line & rocks which were taken from T-4634 (1931) were carefully checked. This sheet comprises the area between long.  $124^{\circ} 01.42$  to  $06.2$ . Numerous details were added. In accordance with a paragraph in the Description Report of T-4634, the low water line of T-2907 (1909) was transferred to H-5158 by the verifier and corrected according to the prevailing hydrography.

The remaining topography from long  $124^{\circ} 01.42$  to  $123^{\circ} 44'$  is not contemporary with this survey and was taken from T-4182 (1926). Verification of the rocks, transfer of low water line, topographic names and information relative to outstanding rocks awash were added by the verifier.



9. An important developed shoal on this sheet may be found in lat.  $48^{\circ} 11.16$ , long  $124^{\circ} 0.97$  with a least depth of  $2\frac{5}{8}$  fms. Comparison with the present chart shows a  $6\frac{1}{2}$  fm sounding a few meters to the east but no indication of shoaling.
10. Several soundings of shoaler depths of minor importance may be found as indicated:-

Least depth	Lat.	Long.
$6\frac{1}{2}$ fm.	$48^{\circ} 10.76$	$123^{\circ} 58.05$
$6\frac{5}{8}$ "	$11.46$	$124^{\circ} 01.58$
$3\frac{1}{2}$ "	$11.06$	$01.26$
$3\frac{5}{8}$ "	$11.14$	$01.70$
$2\frac{5}{8}$ "	$11.20$	$02.20$
$3\frac{1}{8}$ "	$11.10$	$01.95$

In general, the area to the west of the shoal in paragraph #9 above, is very uneven. ✓

11. Attention of the reviewer is called to several soundings of doubtful character:-

Pos. 24c ✓	lat. $48^{\circ} 9.17$	long. $123^{\circ} 50.68$	
" 102c ✓	" $9.86$	" $50.00$	✓
" 38g <span style="color:red">Plot as 7 fath. app.</span>	$10.67$	" $58.00$	
" 74k ✓	" $11.63$	$02.07$	

at pos. 38g, above, a pencil note of "7 fms" appears



faintly on the Boat sheet.

12. The junction on the West with H-5156 and 5157 (by L.S. Straw) possesses good agreement. In general there is little or no overlap to test the strength of the surveys involved.

The junction on the North with H-5159 was made from a photostat. It is quite satisfactory in respect to agreement. From long  $124^{\circ} 1.0'$  to  $4.0'$  the change in bottom is quite rapid involving a little difficulty in transfer. A maximum difference of 2 fms may be seen in a depth of 9-11 fms in long.  $124^{\circ} 2.0'$ .

13. Respectfully submitted — Harold W. Murray

Section of Field Records  
Review of Hydrographic Sheet No. 5158  
Pillar Point to Crescent Bay, Strait of Juan  
de Fuca, Washington.  
Surveyed in 1931  
Instructions dated May 7 and May 21, 1931  
Chief of Party - K. T. Adams  
Surveyed by H. J. Healy and J. C. Mathisson  
Protracted and soundings plotted by E. H. Sheridan  
Verified and inked by Harold W. Murray.

1. The sounding records generally conform to the Hydrographic Manual, except that the cuts to signals and hydrographic information were not indexed in the sounding books. More notes relative to the existence and extent of kelp should have been given in the records.
2. The plan and extent of development does not quite satisfy the specific instructions. To fully meet these instructions further development should have been done in the area north-westward of Twin Rivers in approximate latitude  $48^{\circ} 10'.5$  longitude  $123^{\circ} 57'$ .
3. Soundings.- There are no cross-lines but the depths shown are consistent among themselves. The sounding record notes "heavy Kelp" in the area off Twin Rivers. This area should have been more fully developed or at least sufficient notes and sketches given to define the kelp patches. There is an unnatural disproportion in the amount of kelp shown eastward of longitude  $124^{\circ} 01'$  from that shown westward of that meridian.

The usual depth curves have been drawn on the sheet and are fairly satisfactory. The 5 fathom curve should be considered the danger curve even for light draft vessels.

4. Junctions with contemporary survey sheets H5156, and H5157 are satisfactory. The sheet joins but does not overlap H4586 (surveyed in 1926). The depths along the junction line are in good agreement.

Comparison with H1629 (surveyed in 1884, scale 1-80,000) shows good agreement in the deeper portions of the sheet. Inside the 5 fathoms curve, the new survey shows a number of shoal depths which have no corresponding indications on the older survey.

5. Recommendations. - It is recommended that this sheet (H5158) supersede all previous surveys for charting purposes for the area covered by it. If favorable opportunity offers, the

area northward and northwestward of Twin Rivers to the 10 fathom curve should be further developed. The importance of indicating the limits of kelp patches on the boat sheet or by suitable notes in the sounding records should be impressed on the sounding parties.

6. Reviewed by R. J. Christman, June 1932.

Sheet Inspected and recommendations for additional work approved by A. L. Shalowitz. Attention of the compiler is called to the charted  $\frac{5}{4}$  fathom sounding about  $\frac{1}{2}$  mile northwestward of Twin P. O. This sounding should be 4 fathoms and was erroneously interpreted as 4 feet on H1629.

*App.*

*A. M. Sobieralski*

*J. S. Borden*



6382 Revised rocks per memo 1968 Stuart ~~62~~ 7-11-72